



**AAFS 2017 Criminalistics Section Meeting
February 15, 2017**



Thoughts on Receiving the Paul L. Kirk Award

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Previous Recipients of the Paul L. Kirk Award

1. J.D. Chastain (1979)
2. **John I. Thornton** (1980)
3. Douglas M. Lucas (1981)
4. W.J. Cadman (1982)
5. Briggs J. White (1983)
6. John W. Gunn, Jr. (1984)
7. Walter C. McCrone (1985)
8. **Henry C. Lee** (1986)
9. **George F. Sensabaugh** (1987)
10. Andrew H. Pincipe (1988)
11. Anthony Longhetti (1989)
12. Irving C. Stone, Jr. (1990)
13. **Jan S. Bashinski** (1992)
14. **Robert E. Gaensslen** (1993)
15. **Barry A.J. Fisher** (1994)
16. Richard S. Frank (1995)
17. Ralph F. Turner (1996)
18. Thomas A. Kubic (1997)
19. Carla M. Noziglia (1998)
20. **Peter R. DeForest** (1999)
21. **Richard E. Tontarski, Jr.** (2000)
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23. Antonio A. Cantu (2002)
24. John D. De Haan (2003)
25. John A. Reffner (2004)
26. **Jay A. Siegel** (2005)
27. **Richard Saferstein** (2006)
28. **Bruce R. McCord** (2008)
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30. James W. Osterburg (2010)
31. **Arthur J. Eisenberg** (2011)
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33. **JoAnn Buscaglia** (2013)
34. **Eric Buel** (2014)
35. **Ira S. Lurie** (2015)
36. Christopher R. Bommarito (2016)

Paul Leland Kirk

(1902 – 1970)

https://en.wikipedia.org/wiki/Paul_L._Kirk



*“Wherever he steps, whatever he touches, whatever he leaves, even unconsciously, will serve as silent evidence against him. Not only his fingerprints or his footprints, but his hair, the fibers from his clothes, the glass he breaks, the tool mark he leaves, the paint he scratches, the blood or semen that he deposits or collects – all these and more bear mute witness against him. **This is evidence that does not forget.** It is not confused by the excitement of the moment. It is not absent because human witnesses are. It is factual evidence. **Physical evidence cannot be wrong;** it cannot perjure itself; it cannot be wholly absent. **Only its interpretation can err. Only human failure to find it, study and understand it, can diminish its value.**”*

— Paul L. Kirk, PhD, “Father of Criminalistics”

Crime Investigation: Physical Evidence and the Police Laboratory
Interscience Publishers, Inc., New York, NY 1953 Chapter 1, page 4.

Fair use,
<https://en.wikipedia.org/w/index.php?curid=9996768>



His 1953 Book

A review of his book was published in *Science* (August 28, 1953) 118: 256-257

Book Reviews

Crime Investigation: Physical Evidence and the Police Laboratory. Paul L. Kirk. New York-London: Interscience, 1953. 784 pp. Illus. \$10.00.

Dr. Kirk's avowed intention that this book should serve the "needs of police investigators, general criminalists in the small police laboratories, and students of criminalistics and police science" appears to be too broad. The needs of these groups are not identical or even nearly so. The police investigator is by far the largest of the three groups and is in itself a "specialty" not closely allied to the worker in the small laboratory or the student.

...

Persons more experienced and more learned in the field of scientific criminal investigation will take a more kindly view of this book. Such must be the case as evidenced by the fact that New York University Graduate School of Public Administration and Social Service conducted an institute on "Modern Methods in Law Enforcement" on August 3-7, and selected this book as the textbook for the course.

WILLIAM E. KIRWAN

*New York State Police Scientific Laboratory
Albany, N. Y.*

CRIME INVESTIGATION

*Physical Evidence and
the Police Laboratory*

PAUL L. KIRK, Ph.D.

*Professor of Biochemistry and Criminalistics, University of California
Berkeley, California*

INTERSCIENCE PUBLISHERS, INC., NEW YORK

Interscience Publishers Ltd., London

Author of *Forensic DNA Typing* Book Series



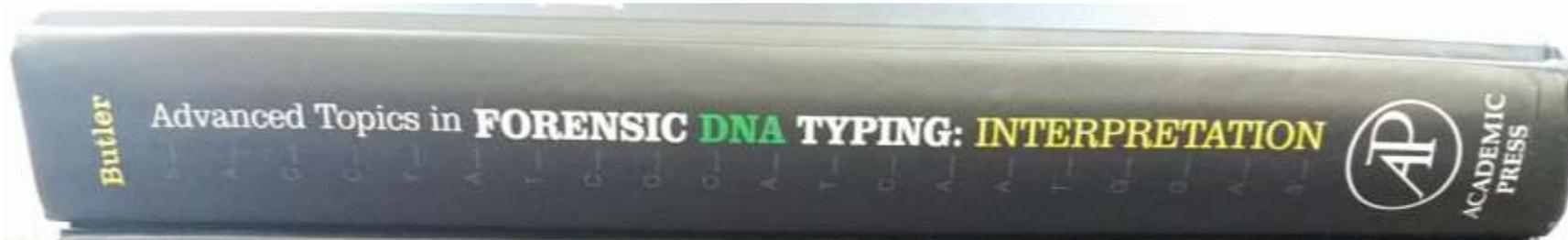
**5 books (2001, 2005, 2010, 2012, 2015)
plus Chinese and Japanese editions**



Signed >300 books at Oct 2014 ISHI

Butler Books on Forensic DNA Typing

2015



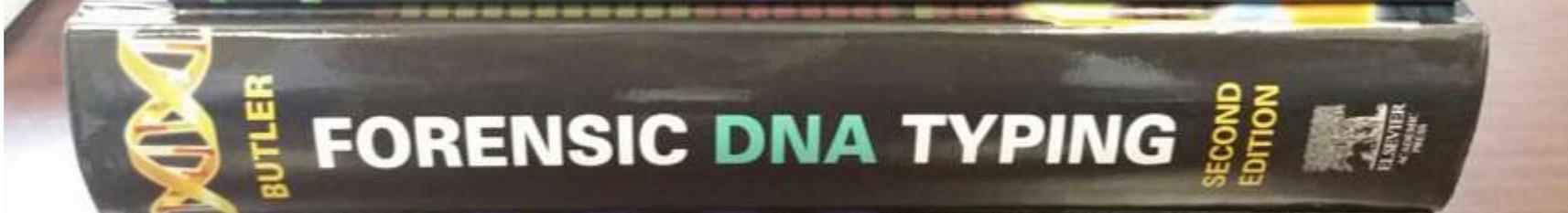
2012



2010



2005

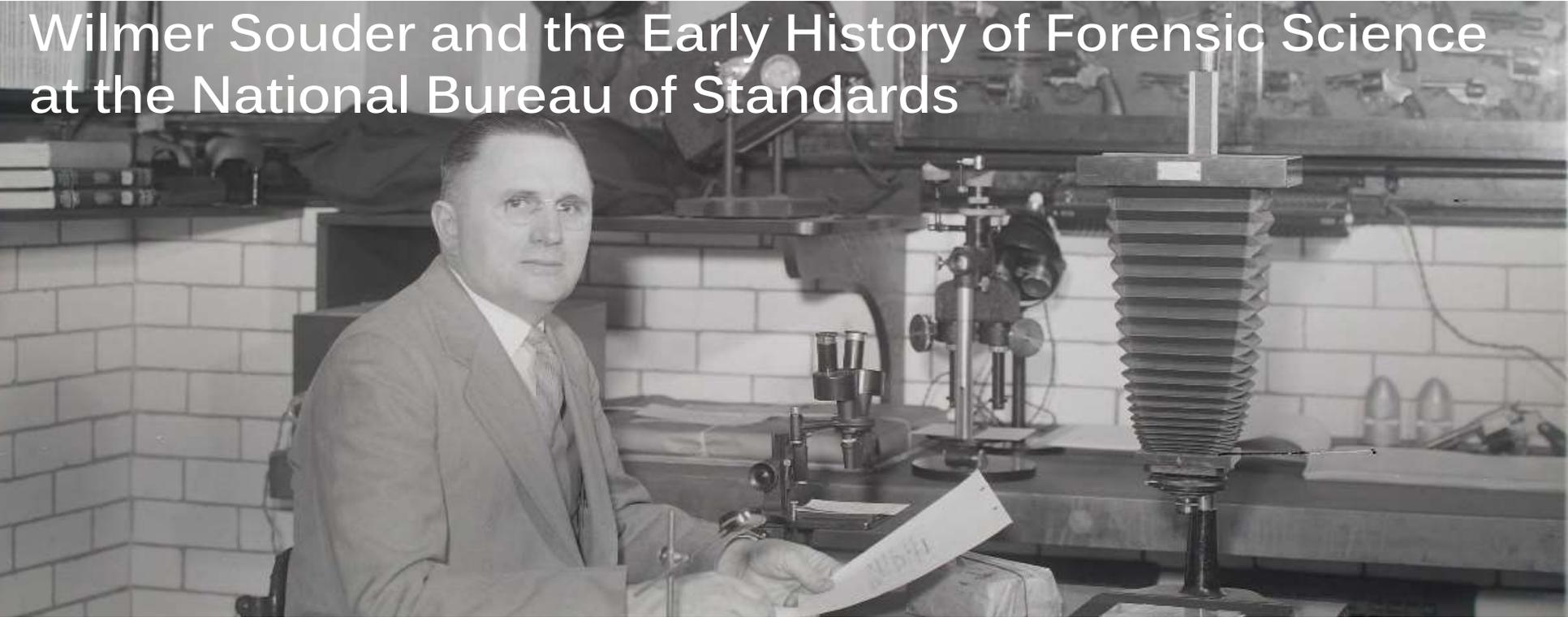


2001



The Best Forensic Scientist You've Never Heard Of

Wilmer Souder and the Early History of Forensic Science at the National Bureau of Standards



NIST
National Institute of
Standards and Technology
U.S. Department of Commerce



Kristen M. Frederick-Frost, PhD

Robert M. Thompson, BS

John M. Butler, PhD

LW1: Last Word Society
American Academy of Forensic Sciences
Las Vegas, NV (February 25, 2016)

NIST FORENSIC SCIENCES



Rediscovery of Wilmer Souder's Notebooks

Transferred to NIST Archives in 2003

by Alcohol, Tobacco, Firearms, and Explosives (ATF) Laboratory

Detailed analysis started in May 2015



Digital scans of Souder's notebooks were released on the NIST website recently

Number of Cases Worked by Wilmer Souder based on entries in his notebooks

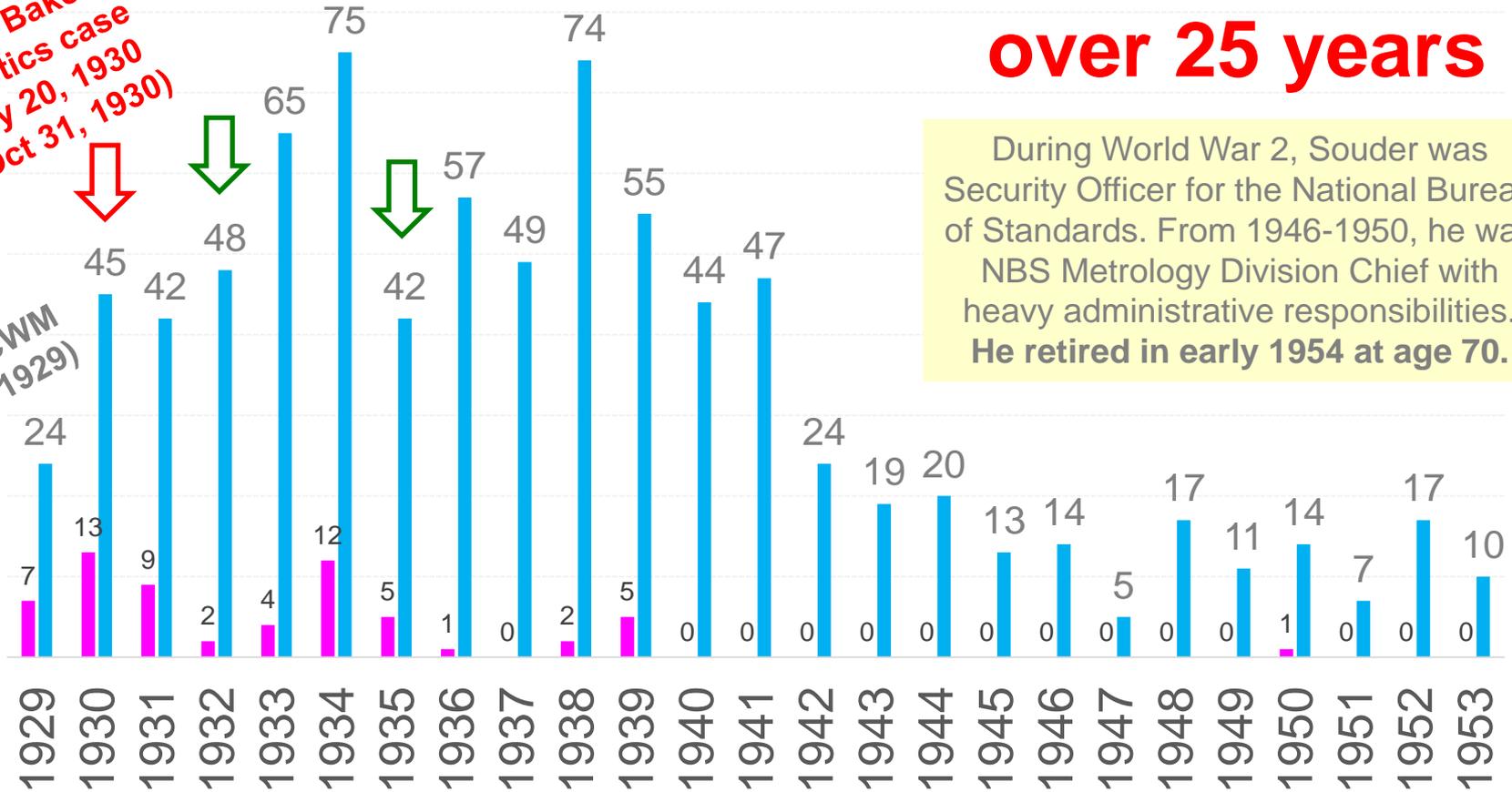
**838 cases
over 25 years**

Lindberg baby kidnapping
ransom note evaluations
(May 9, 1932 & Jan 16, 1935)

Mary Baker
ballistics case
(May 20, 1930
& Oct 31, 1930)

During World War 2, Souder was Security Officer for the National Bureau of Standards. From 1946-1950, he was NBS Metrology Division Chief with heavy administrative responsibilities. He retired in early 1954 at age 70.

Talk at NCWM
(June 5, 1929)



FBI Laboratory
begins operation
(Nov 24, 1932)

■ # ballistics ■ Total Cases

Reader's Digest July 1951 article

<https://www.nist.gov/featured-stories/who-was-detective-x>

When no one else can solve a mystery, Government heads put in a call for Dr. Souder



Washington's Detective X

Condensed from This Week Magazine

Emile C. Schurmacher pp. 118-120

See YouTube video: <https://www.youtube.com/watch?v=a97A44ORnrE>

Wilmer Souder notebooks are scanned and available on the NIST Digital Archives:
<http://nistdigitalarchives.contentdm.oclc.org/cdm/landingpage/collection/p16009coll67>

Log Book from the end of Wilmer Souder's
career at the National Bureau of Standards
(July 1950 to February 1954),
which **details his daily activities**

LABORATORY
RECORD
BOOK

U.S.
DEPARTMENT
OF
COMMERCE
—
JOURNAL
KEEPED BY
MEMBERS

Souder Logbook Entries from February 1953

64 years ago

p. 105

Souder mentions reading Paul Kirk's 1953 book

A handwriting case that Souder is working for the Treasury Department

From p. 104

Day	Time	Activity	Code
		<u>Kirco Book Crime Prep govt.</u>	0719 = 8
10	7:30 A to 6:15 P	to Ia am. P.m. prep Ia	9007 = 8
11		let up specs for Ia	9007 = 4
		Read .4 lib & letter <u>Read Kirk</u>	098 = 4
12	7:45	<u>Rechnachr StL case all day</u>	3838 = 8
13	7:50	" "	" = 8
16	7:30	" " 6 hrs ^{3/8} .4 <u>Comardella</u>	2 = 098
17	8:30	" " 7 " " " "	1 "
18	7:30	" " 8 hrs "	" "
Feb 19		<u>work on Review 2 Crime Kirk</u>	0799 = 6
		Lopez & Indian. Setty no	2 = 098
		1 Jordan. pherax. Perhaps	
20	7:45	Setty & pher letters out	2 = 098
		<u>Letter to StL. out</u>	
		Col Patmalce n.ia visit 16 min.	6 = 0799
		<u>work on Kirk</u>	

3838

Feb 12 = 8

13 = 8

24 = 1

16 = 6

17 = 7

18 = 8 / 28

Did Paul Kirk (West Coast) Know Wilmer Souder (East Coast)?

Kirk, P.L. (1963) The interrelationship of law and science. *Buffalo Law Review* 13: 393-401

Kirk cites Wilmer Souder on page 396 of this law review article

The criteria by which the expert may be selected are simple, and often not appreciated. First, if scientific principles are involved, the witness must be a scientist. Technicians, and second rate dabblers in science do not suffice. Second, and possibly more important, the witness must know investigative procedure and philosophy. It is in this matter that many competent scientists fail to meet the requirements. Perhaps investigation is an art. If so, the witness must be the artist, for science alone cannot always be adapted to the special requirements of the matter at issue. Third, the witness must have a working knowledge of legal procedure if he is to be effective. It is in this requirement also that many scientists fail, for they do not realize the special requirements of legal, as opposed to scientific, proof. Furthermore, they are always likely to complicate or confuse the legal issues by their lack of understanding of legal process and the manner in which the lawyer approaches his problems. Fourth, the witness must be capable of reducing his testimony to the level of understandability by a lay jury who will decide the issue⁴. Clear exposition in lay terms may be effective; complicated technical discussion that is not understood, however correct, will fall on deaf ears. The requirements for the effective expert witness are indeed formidable, but they can be met and are met by the properly trained criminalist. It is equally formidable for the doctor to confront the victim of a

4. Cf. Souder, *Effective Testimony for Scientific Witnesses*, 1954 *Science* 819.



Wisdom of Wilmer Souder

National Bureau of Standards (1911-1913, 1917-1954)

Effective Testimony for Scientific Witnesses

Wilmer Souder*

3503 Morrison St., N.W., Washington, D.C.

THE research scientist is trained by instructors who are experts in his selected field of specialization. He reads professional magazines and converses with his colleagues. Among associates in his field, the writings and conversations are carried on from a vocabulary of words having very specialized meanings, content, and acceptance. Though quite unintelligible to the average listener, the conversations are highly meaningful to all associates. As a witness, he must present his findings in words and exhibits readily understandable by the audience.

The audience. When called to testify in a court of law, the scientist will find himself (professionally) among strangers, although all present may be citizens

the testimony, unless there are irregularities in his career or in his reasonings in the special field. This is based on the judicial conception: "There must be no quarrels in the family." When the state's educational institution trains a citizen and presents him with a diploma guaranteeing certain attainments, rights and privileges, the state's judicial institution must not deny these credentials without well-documented reasons.

The expert. One definition of an expert is: "One who has acquired, by special study, practice, and experience, peculiar skill and knowledge in relation to some particular science, art, or trade." In admitting the expert, the judge usually explains to the jury that certain evidence is about to be introduced which is of

- **Wilmer Souder**, "Effective Testimony for Scientific Witnesses", *Science* (1954) 119: 819-822

Ideals for Firearms Identification

Wilmer Souder, *Army and Navy Journal*, March 19, 1932

There should be adopted:

1. **Minimum standards of equipment** to be used.

OSAC efforts to prepare and promulgate documentary standards

2. **Standards for records of evidence** to accompany and substantiate the expert's opinion; these to include photographs, metrological data and interpretations in permanent form.

NCFS Views Document on Report and Case Record Contents

3. **Standards for qualification of experts** which will include **actual tests** made against secretly designated materials and reported in compliance with item 2.

PCAST requests for data to support conclusions made

4. **Methods for constant following up [with] experts testifying in court** to guarantee the highest efficiency.

DOJ Forensic Science Discipline Review of FBI examiner testimony

85 years later we are still addressing these challenges!

International Symposium on Forensic Science Error Management

July 24-28 @NIST, Gaithersburg, MD



Technical Tracks

- Crime Scene
- Death Investigation
- Human Factors
- Legal Factors
- Quality Assurance
- Laboratory Management
- Criminalistics
- Digital Evidence

go.usa.gov/x9yEK

Or search for “NIST 2017 forensic error management”



Acknowledgments

- My wife and children for their support
- National Institute of Justice (NIJ) for funding over the years
 - See *NIJ Journal* (Dec 2015) 276: 27-31
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 - Initiating my career at the FBI Laboratory's Forensic Science Research Unit in 1993
- Dennis Reeder (NIST)
 - brought me to NIST in 1995 and again in 1999
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 - NIST leadership support
- Pete Vallone, Mike Coble, Margaret Kline, Becky (Hill) Steffen, Dave Duewer, Kathy Sharpless, Kristen Frederick-Frost, Mark Stolorow, John Paul Jones, Robert Thompson, Sue Ballou, ...
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